



DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Benoit #22-1

22-8s-21w Graham KS

Start Date: 2013.08.29 @ 14:35:00

End Date: 2013.08.30 @ 00:16:00

Job Ticket #: 54452 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.04 @ 15:06:26



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

H&C Oil Operating

22-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Benoit #22-1

Job Ticket: 54452

DST#: 1

ATTN: Marc Downing

Test Start: 2013.08.29 @ 14:35:00

GENERAL INFORMATION:

Formation: **LKC "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:13:45

Time Test Ended: 00:16:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3345.00 ft (KB) To 3370.00 ft (KB) (TVD)

Reference Elevations: 2058.00 ft (KB)

Total Depth: 3370.00 ft (KB) (TVD)

2050.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 33.33 psig @ 3346.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.29

End Date:

2013.08.30

Last Calib.: 2013.08.30

Start Time: 14:35:05

End Time:

00:16:00

Time On Btm: 2013.08.29 @ 20:13:30

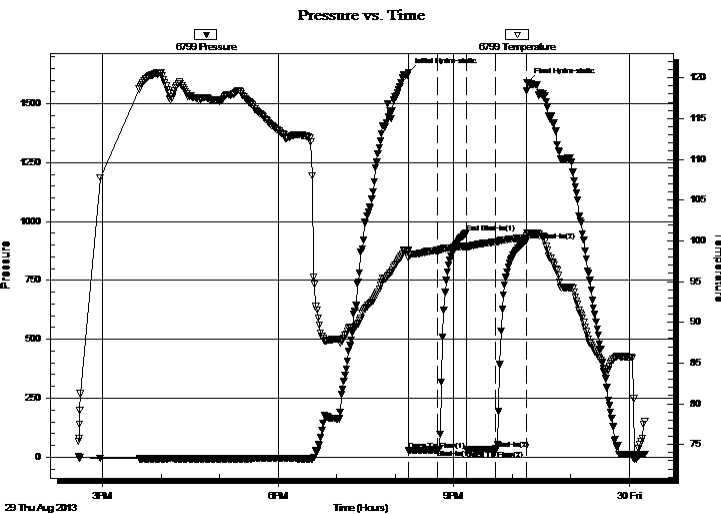
Time Off Btm: 2013.08.29 @ 22:15:15

TEST COMMENT: 30 - IF- Surface blow

30 - IS- No return

30 - FF- No blow

30 - FS- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1632.85	98.80	Initial Hydro-static
1	29.43	97.93	Open To Flow (1)
30	31.34	98.81	Shut-In(1)
60	951.95	99.33	End Shut-In(1)
60	30.95	99.16	Open To Flow (2)
90	33.33	99.88	Shut-In(2)
121	917.56	100.35	End Shut-In(2)
122	1589.98	100.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
12.00	Mud, 100%M	0.17

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating

22-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Benoit #22-1

Job Ticket: 54452

DST#: 1

ATTN: Marc Downing

Test Start: 2013.08.29 @ 14:35:00

Tool Information

Drill Pipe:	Length: 3337.00 ft	Diameter: 3.80 inches	Volume: 46.81 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 34000.00 lb
			<u>Total Volume: 46.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3345.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	46.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3325.00	
Shut In Tool	5.00			3330.00	
Hydraulic tool	5.00			3335.00	
Packer	5.00			3340.00	21.00 Bottom Of Top Packer
Packer	5.00			3345.00	
Stubb	1.00			3346.00	
Recorder	0.00	6799	Inside	3346.00	
Recorder	0.00	8648	Outside	3346.00	
Perforations	21.00			3367.00	
Bullnose	3.00			3370.00	25.00 Bottom Packers & Anchor
Total Tool Length:	46.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating

22-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Benoit #22-1

Job Ticket: 54452

DST#: 1

ATTN: Marc Downing

Test Start: 2013.08.29 @ 14:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
12.00	Mud, 100%M	0.168

Total Length: 12.00 ft Total Volume: 0.168 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6799

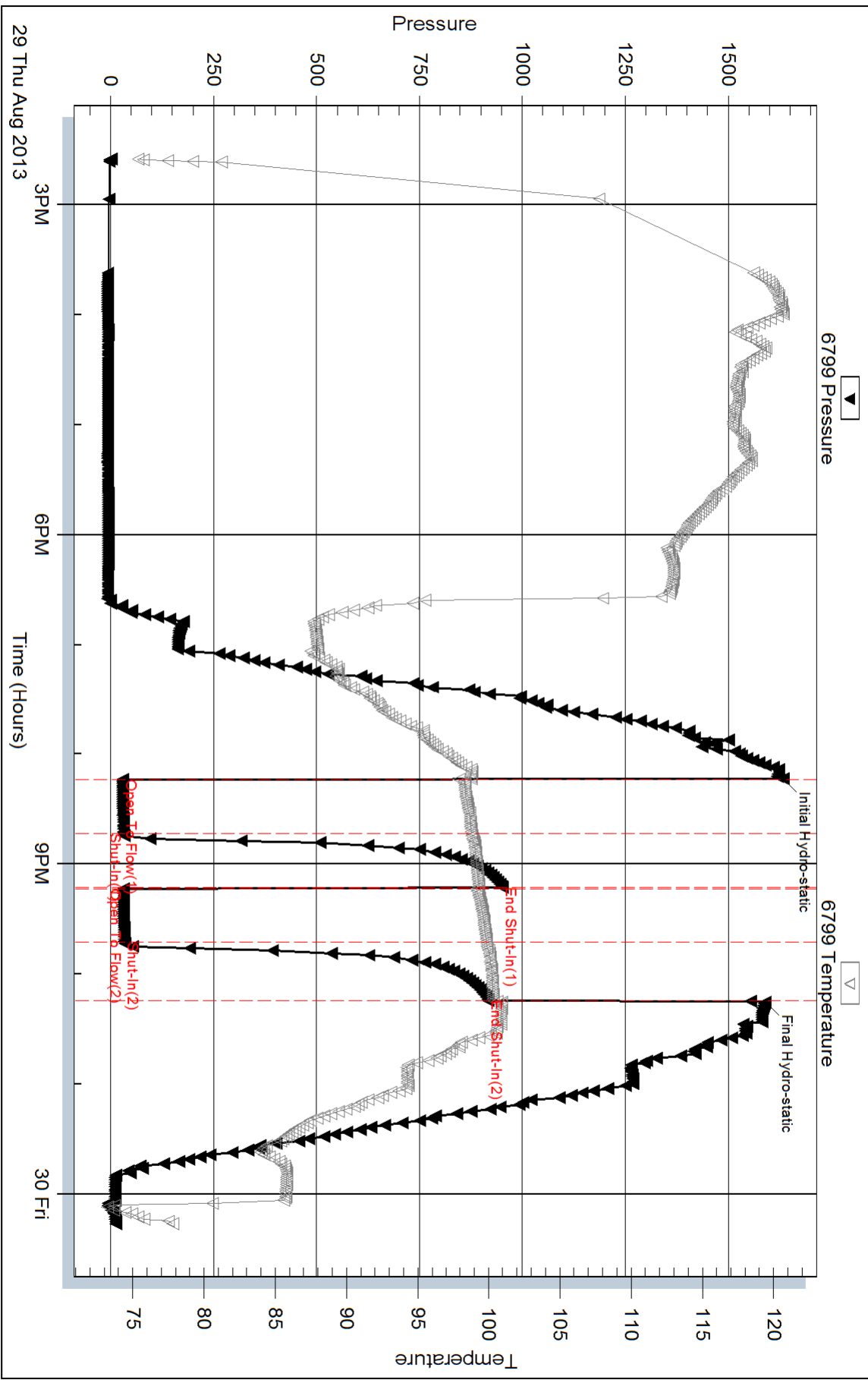
Inside

H&C Oil Operating

Berolt #22-1

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 54452

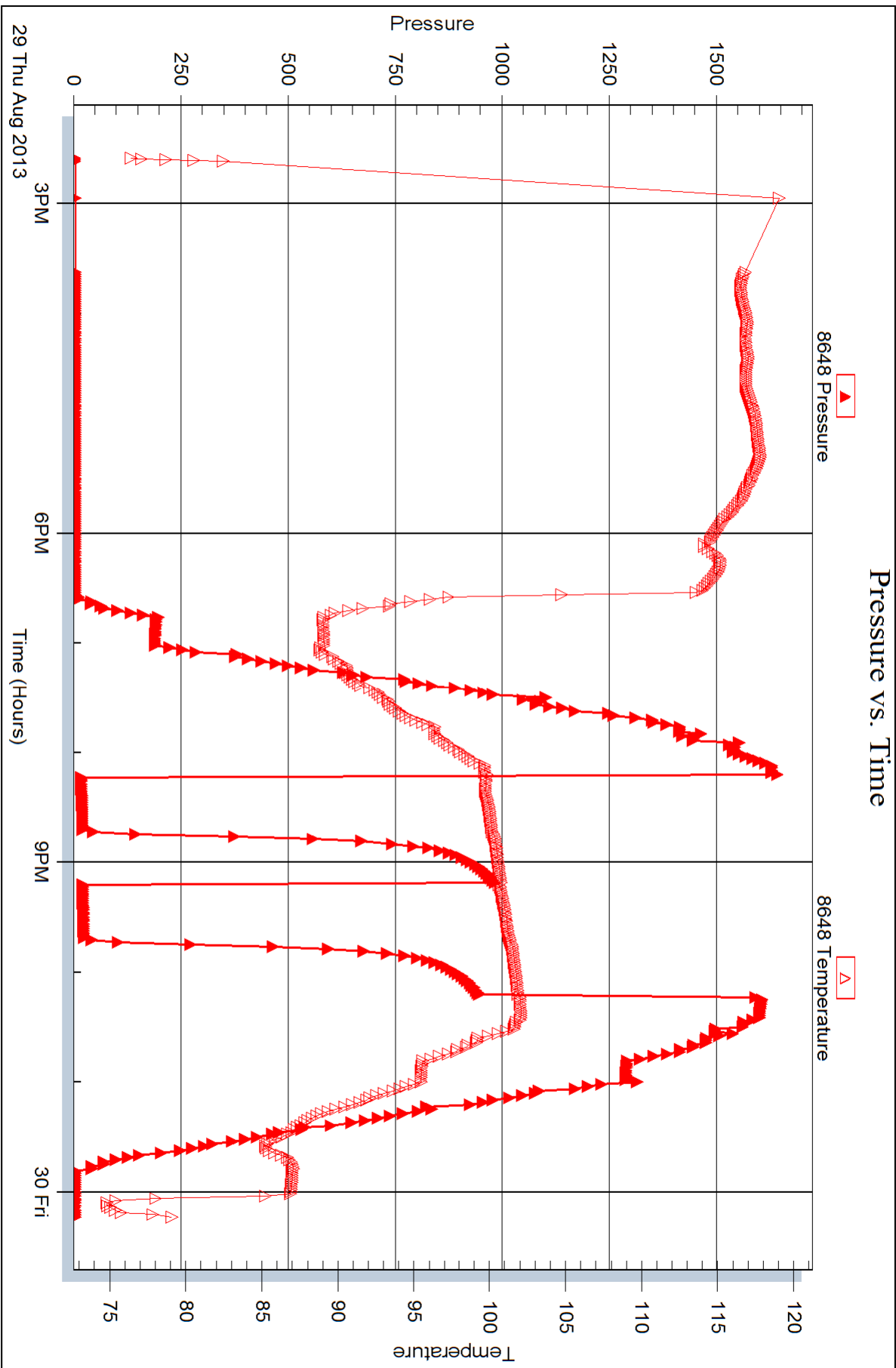
Printed: 2013.09.04 @ 15:06:28

Serial #: 8648

Outside H&C Oil Operating

Berolt #22-1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Benoit #22-1

22-8s-21w Graham KS

Start Date: 2013.09.01 @ 20:10:00

End Date: 2013.09.02 @ 03:58:32

Job Ticket #: 54453 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.04 @ 15:05:56



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

H&C Oil Operating

22-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Benoit #22-1

Job Ticket: 54453

DST#: 2

ATTN: Marc Downing

Test Start: 2013.09.01 @ 20:10:00

GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:46:39

Time Test Ended: 03:58:32

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3393.00 ft (KB) To 3475.00 ft (KB) (TVD)

Reference Elevations: 2058.00 ft (KB)

Total Depth: 3475.00 ft (KB) (TVD)

2050.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 90.72 psig @ 3463.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.09.01

End Date:

2013.09.02

Last Calib.:

2013.09.02

Start Time: 20:10:01

End Time:

03:58:33

Time On Btm:

2013.09.01 @ 22:46:29

Time Off Btm:

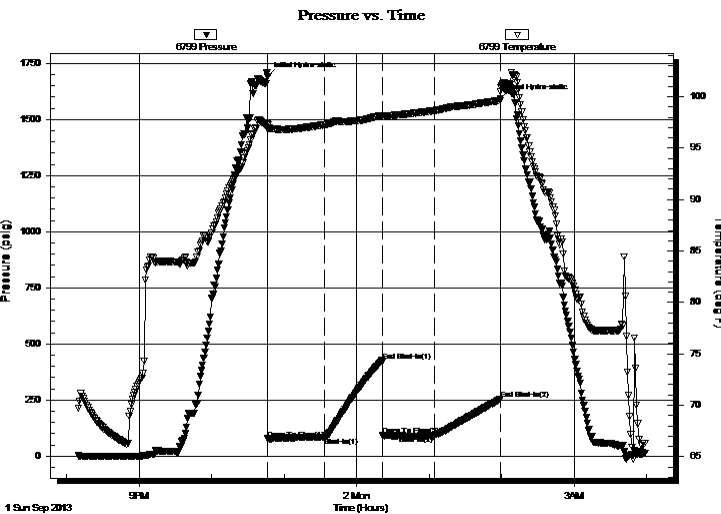
2013.09.02 @ 01:59:00

TEST COMMENT: 45 - IF- 3 1/2" blow

45 - IS- No return

45 - FF- 1" blow

45 - FS- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1691.70	97.31	Initial Hydro-static
1	76.96	96.84	Open To Flow (1)
48	84.10	97.27	Shut-In(1)
95	421.04	98.20	End Shut-In(1)
95	92.64	98.07	Open To Flow (2)
138	90.72	98.64	Shut-In(2)
193	252.83	99.63	End Shut-In(2)
193	1591.75	100.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud, 100%M	0.84

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating

22-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Benoit #22-1

Job Ticket: 54453

DST#: 2

ATTN: Marc Downing

Test Start: 2013.09.01 @ 20:10:00

Tool Information

Drill Pipe:	Length: 3400.00 ft	Diameter: 3.80 inches	Volume: 47.69 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 34000.00 lb
			Total Volume: 47.69 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3393.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	103.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3373.00	
Shut In Tool	5.00			3378.00	
Hydraulic tool	5.00			3383.00	
Packer	5.00			3388.00	21.00 Bottom Of Top Packer
Packer	5.00			3393.00	
Stubb	1.00			3394.00	
Perforations	5.00			3399.00	
Change Over Sub	1.00			3400.00	
Drill Pipe	62.00			3462.00	
Change Over Sub	1.00			3463.00	
Recorder	0.00	6799	Inside	3463.00	
Recorder	0.00	8648	Outside	3463.00	
Perforations	9.00			3472.00	
Bullnose	3.00			3475.00	82.00 Bottom Packers & Anchor

Total Tool Length: 103.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating

22-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Benoit #22-1

Job Ticket: 54453

DST#: 2

ATTN: Marc Downing

Test Start: 2013.09.01 @ 20:10:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
60.00	Mud, 100%M	0.842

Total Length: 60.00 ft Total Volume: 0.842 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

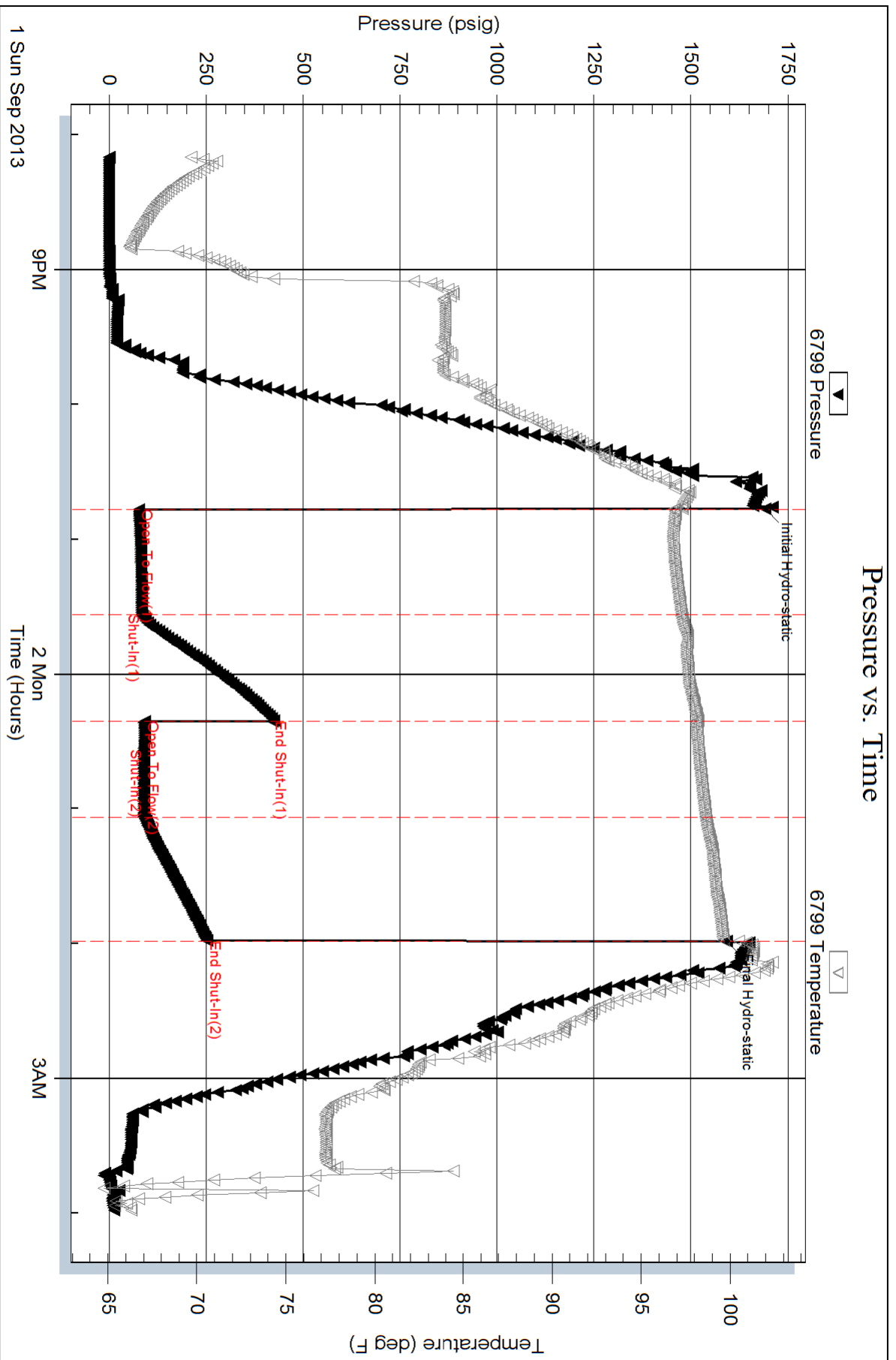
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

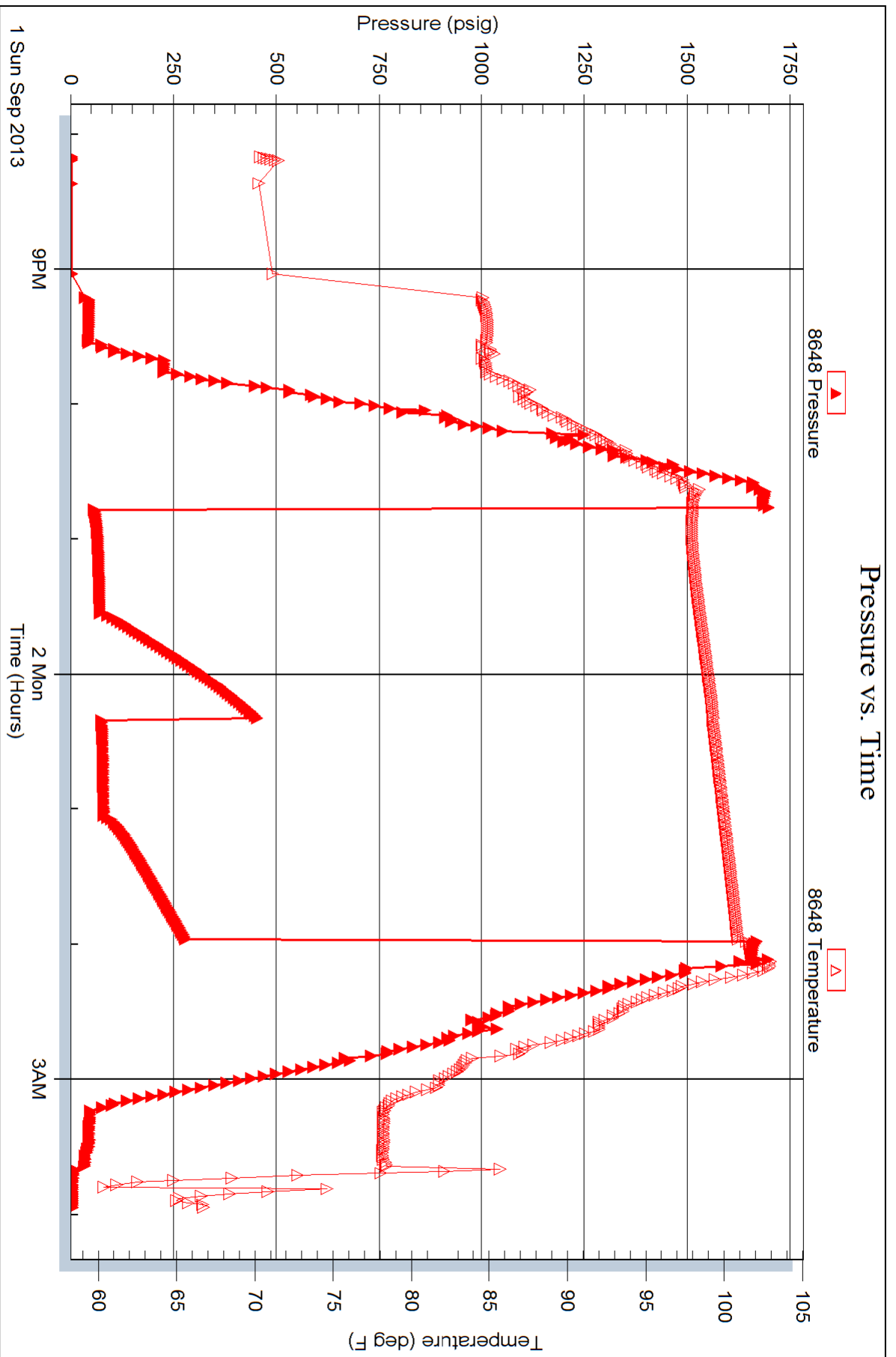


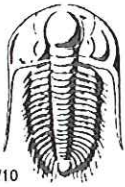
Serial #: 8648

Outside H&C Oil Operating

Berolt #22-1

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54452

Well Name & No. Benoit 22-1 Test No. 1 Date 8-29-13
 Company H & C Oil Operating Elevation 2058 KB 2050 GL
 Address Po Box 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 22 Twp. 8s Rge. 21w Co. Graham State KS

Interval Tested 3345 - 3370 Zone Tested "E & F"
 Anchor Length 25' Drill Pipe Run 3337' Mud Wt. 9.1
 Top Packer Depth 3340 Drill Collars Run - Vis 46
 Bottom Packer Depth 3345 Wt. Pipe Run - WL 7.2
 Total Depth 3370 Chlorides 700 ppm System LCM -

Blow Description IF - Surface blow
ISI - No return
FF - No blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>12</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

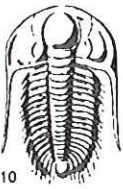
Rec Total 12' BHT 100° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1632 Test 1150 T-On Location 2:03 pm
 (B) First Initial Flow 29 Jars - T-Started 2:35 pm
 (C) First Final Flow 31 Safety Joint - T-Open 8:14 pm
 (D) Initial Shut-In 951 Circ Sub - T-Pulled 10:14 pm
 (E) Second Initial Flow 30 Hourly Standby 1.25h 125 T-Out 12:16 am
 (F) Second Final Flow 33 Mileage 101 RT 156.55 Comments -
 (G) Final Shut-In 917 Sampler -
 (H) Final Hydrostatic 1589 Straddle - Ruined Shale Packer -
 Shale Packer - Ruined Packer -
 Extra Packer - Extra Copies -

Initial Open 30
 Initial Shut-In 36
 Final Flow 30
 Final Shut-In 30
 Sub Total 1431.55

Approved By _____ Our Representative Cody [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54454

Well Name & No. Benoit 22-1 Test No. 2 Date 9-1-13
 Company H & C Oil Operating Elevation 2058 KB 2050 GL
 Address Po Box 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 22 Twp. 8S Rge. 21W Co. Graham State KS

Interval Tested 3393-3475 Zone Tested LKC "H-K"
 Anchor Length 82' Drill Pipe Run 3400 Mud Wt. 9.2
 Top Packer Depth 3388 Drill Collars Run — Vis 60
 Bottom Packer Depth 3393 Wt. Pipe Run — WL 7.2
 Total Depth 3475 Chlorides 700 ppm System LCM —
 Blow Description IF - 3.5" blow
ISI - No return
FF - 1" blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 60' BHT 99° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1691</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>7:30 pm</u>
(B) First Initial Flow <u>76</u>	<input type="checkbox"/> Jars	T-Started <u>8:10 pm</u>
(C) First Final Flow <u>84</u>	<input type="checkbox"/> Safety Joint	T-Open <u>10:50 pm</u>
(D) Initial Shut-In <u>421</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1:50 am</u>
(E) Second Initial Flow <u>92</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>4:00 am</u>
(F) Second Final Flow <u>90</u>	<input checked="" type="checkbox"/> Mileage <u>101 RT</u> 313.10	Comments <u>Loaded tools 9-3-13</u>
(G) Final Shut-In <u>252</u>	<input type="checkbox"/> Sampler	<u>@ 9:30 am</u>
(H) Final Hydrostatic <u>1591</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45

Day Standby 1d 43.5h 1d 5.5h
 Accessibility
 Sub Total 1463.10

Sub Total 2250
 Total 3713.10
 MP/DST Disc't

Approved By _____ Our Representative Cody B...

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.